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ABSTRACT

Differences between California State University, Fresno, students eligible to enroll in freshman composition and those who appeared to need reading and writing remediation were studied. Attention was directed to differences between students scoring below the first quartile on the English Placement Test (EPT) reading subscore and those scoring at or above this point. Of concern were demographic factors, persistence to the end of the freshman year, cumulative units completed in the first year, grade point average in the first year, grades in English 1, and entrance examination scores. Differences in EPT subscores related to student's sex, ethnicity, self-reported English as a second language status, and decision about a major at college entrance were also investigated. The EPT reading subscore was not a better predictor of persistence and academic progress than other objective components of the EPT. However, the fact that the EPT essay subscore was more highly related to persistence strongly supports the accuracy and consistency of essay testing. Significantly less variability existed in the EPT essay subscore than in three objective test subscores on the basis of ethnicity and English as a second language status. Additional findings are discussed. A 154-item selected bibliography concludes the document. (SW)

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A STUDY OF ENGLISH PLACEMENT TEST SCORES AND THEIR USE IN ASSIGNING ADULT FREE-NO FRESHMEN TO BEGINNING ENGLISH COURSES

by

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August 15, 1986

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A Research Study Presented to the

EPT Test Development Committee

August 15, 1986

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William P. Stock, Ph.D.
Juan M. Flores, Ed.D.
Linnea M. Aycock, Ph.D.

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A STUDY OF ENGLISH PLACEMENT TEST SUBSCORES AND THEIR USE IN ASSIGNING CSU, FRESNO FRESHMEN TO BEGINNING ENGLISH COURSES

CHAPTER 1

INTRODUCTION

Background

The California State University, Fresno study of the English Placement Test (EPT) centered upon an examination of the reading subscore and other components of the examination to determine which factors would be most predictive of student success in their early English courses and overall performance and persistence. Another focus of the study dealt with the efficacy with which EPT scores were used on this campus to make correct decisions in either English A (a remedial writing course) or English 1 (regular freshman composition). Although it was recognized that the EPT is a placement test and was not designed to predict student success, EPT component subscores were combined with other variables to determine how well student progress in English 1 and at the end of the freshman year could be estimated.

Research literature seems to suggest that mastery of basic reading skills is prerequisite to learning to write. Students who scored substantially below the minimal passing score of 151 were often deficient in reading as well as writing skills. Even though these students eventually completed English A and English 1, they often experienced difficulties in their other

courses because they did not have a timely opportunity to correct their deficient reading skills.

The subsections of the EPT are intended to provide placement information relative to the various learning skills of students. These skills include writing and also other various language-related skills necessary for college success. The Educational Testing Services descriptive guide for the EPT states that "the test is meant to reveal whether a student can enter college level classes without a severe handicap in reading and writing. It is also designed to determine whether students have enough skills in reading and writing to undertake college level work."

The document further states that the CSU faculty who comprise the Test Development Committee agree that decisions about placing students in appropriate courses and generally making decisions about a student's course of study require a general understanding of the reading ability of the student. The committee also presupposes that there is a close relationship between reading and writing and assumes that some students may not be able to benefit from writing instruction because their reading skills will need additional development.

CSU, Fresno recognizes the need to provide reading development in addition to writing development for underprepared students. However, the campus has had very limited opportunity to provide reading instruction for students requiring substantial reading development. Thus, students whose reading subscores in-

dicate significant underpreparation in their reading skills have few, if any, options for improving their reading skills and, thus improving their chances for academic success.

In order to establish and maintain a successful writing/reading program and to develop successful students, one must be able to identify scores that are predictive of college success. It is also necessary to identify reading scores indicative of impending difficulties in a college level curriculum and ultimately develop services intended to address these reading difficulties. Although the importance of developing writing skills is clear, college level instruction tends to be reading-intensive and campuses thus need to be assured that students have the prerequisite reading skills necessary for success in this reading-intensive curriculum.

Purpose and Objectives

The fundamental purpose of this study was to investigate differences between students eligible to enroll in freshman composition and those who appear, on the basis of EPT scores or other evidence, to require remedial work in the areas of reading and writing. Within the latter group, differences between students scoring below the first quartile on the EPT reading subscore and those scoring at or above this point were investigated. Differences included demographic factors, persistence to the end of the freshman year, cumulative units completed in the first year, grade point average in the first year, grades in English

1, and entrance examination scores.

A secondary purpose of the study was to investigate differences in EPT subscores on the basis of a student's sex, ethnicity, self-reported ESL status, and whether or not the student had a declared major or was undeclared at the time of his or her entrance into the university.

A final objective of the study was to determine how well EPT subscores could discriminate between students completing English A in one semester and those students requiring two or more semesters to complete the course. If the discrimination turns out to be satisfactory, perhaps a new use for EPT scores would be an early recognition of those students that are so poor in their reading and/or writing skills that they will need remedial work prior to English A or an enriched or lengthened English A program. In addition, for those students deemed ready for English 1, EPT scores were examined to see how well they could discriminate between those students successfully completing the course with a grade of C or higher and those who must repeat the course.

Delineation of the Research Problem

This study explored the extent to which the English Placement Test and other measures were successful in making wise course selections in entry level English courses and in predicting student persistence and academic progress. Specific research questions posed included:

1. Are there significant differences between students eligible for English 1 and those not so eligible on the basis of sex, ethnicity, declared or undeclared major at the time of entrance, and self-reported ESL status?

2. Are there statistically significant differences between students eligible for English 1 and those not so eligible on SAT verbal scores, EPT subscores, the Test of Standard Written English (administered with the SAT), semesters of high school English completed, cumulative number of units completed after one year, and grade point average at the end of the first year?

3. Are the various test scores and subscores used to place entering students highly correlated with each other and with grades in English 1 and academic progress measured at the end of the freshman year?

4. Do students scoring below the lowest quartile on the EPT reading subscore and on the EPT total score persist at a different rate from students scoring at or above that point?

5. Are there significant demographic differences between students scoring below the lowest quartile on the EPT reading subscore and the EPT total score and students scoring at or above that point?

6. Are there statistically significant differences between mean EPT scores for students of different sexes, ethnic groups, reported ESL status, and presence or absence of a declared major at the time of their entrance to CSU, Fresno?

7. Are EPT subscores and selected other factors useful

predictors of English 1 grades, cumulative units completed at the end of one year and grade point average at the end of one year?

8. How well do EPT scores discriminate between students successfully completing and those not successfully completing English 1 and English A?

Limitations of the Study

1. An important variable in studying prediction of college success is missing from this study. High school grade point average is missing due to the fact that many students are admitted on the basis of six or seven semesters of work. Thus, it is impossible to make valid comparisons. For the same reason, the variable semesters of high school English completed that was used in this study is highly suspect due to inferences made in the case of incomplete transcripts.

2. Test scores may not be valid measures of academic aptitude.

3. Grades and grade point average may not be valid measures of academic achievement.

4. There is no known way to accurately measure a student's motivation to achieve in a particular course or total program of studies.

5. Financial status and other variables external to the study, which might influence academic performance, were not measured.

Importance of the Study

The importance of the study lies in the possible confirmation that students are failing or not persisting due to a lack of resources being devoted to deficient reading skills as measured by instruments that are a part of this study. If this proves to be the case, the implication for retention is obvious. Another important factor in the study is the possible utility of EPT scores in differentiating between students needing special attention in addition to English A and those ready for the basic English A course. Again, the implications for retention of such an ability to discriminate are obvious.

A Note on Statistical Significance

This study differs somewhat from many other studies that report a great deal of statistical results via tables. It is the bias of the authors that statistical significance should take a backseat to pragmatic results in studies that have potential programmatic implications like the present effort. This study examined the total population of 1,488 first time freshmen at CSU, Fresno, who began their program of studies in the Fall 1983 semester. Many statistical tests reported included a large segment of this total, and as a result small differences easily attained statistical significance without having the practical significance upon which wise placement decision can and should be made for the individual student. It has been said before - but

it is well worth repeating here - that what may be significant for a group may be insignificant for the individual.

The authors preferred, therefore, to rely upon the multiple R and eta squared statistics rather than simple chi square, t values, and F tests in reporting results. Although both types of statistics were reported, the discussion focused upon the former set whenever possible. The multiple R and eta squared statistics also have the advantage that the proportion of variance in the dependent variable is "explained" by the set of independent variables. Often, especially with large samples, it is possible to have a very significant chi square, t or F value but a correspondingly low multiple R or eta squared.

CHAPTER 2

REVIEW OF THE LITERATURE

Origins of the English Placement Test

The California State University and Colleges Board of Trustees voted in May of 1976 to require a proficiency and diagnostic test of all lower division students, a test that would soon be called the English Placement Test (EPT). Edward White, the first coordinator of this test, wrote that this requirement was established in response to the decline of writing skills of entering freshmen students (White, 1977, p. 57).

The EPT development committee was in agreement that the English Equivalency Examination, then being used to provide a measurement of English proficiency of incoming students who wanted credit for freshman composition, was not an appropriate placement instrument for most students. "A placement test seeks to discover student readiness to enter a course of study; an equivalency test measures performance according to norms set by students concluding a course of study" (White, 1977, p.57). The EPT was thus developed to be used in placing students with average abilities in reading and writing in appropriate entry-level composition courses.

How abilities are measured, what abilities are measured, and how test scores predict success are several of the major questions underlying standardized testing which are of particular concern to teachers, administrators, and especially to students wishing to enter major universities. Students are espe-

cially affected by the results of testing because their future development and choice of universities are often dependent on these results. As a result, standardized testing has been one of the thorniest issues in the field of education. A review of research literature has revealed a substantial body of literature that has questioned whether these tests are culturally biased, or are in some other manner unfair to multitudes of people now required to take these tests. This chapter summarizes the literature on standardized testing relevant to an analysis of the English Placement Test administered in the California State University System.

Strengths and Weaknesses of Standardized Testing

Many variables purport to be predictive of college success, including intelligence, scores on achievement tests, past performance in high school, ability to read, ability to study, mental health, and motivation (Pedrini and Pedrini, 1973, p. 3-4).The reliability of most of these factors varies, but it is clear that they should be judged in conjunction with equally important exogenous variables such as students' gender, ethnicity, and socioeconomic status (Pedrini and Pedrini, 1973, p. 1).

Pedrini and Pedrini drew a distinction between the use of tests for selection, placement and classification. According to Anastasi (1982, p. 179) this distinction was based upon the use of a single test score (placement) and contrasted with the use of two or more criteria (classification). Pedrini and

Pedrini seemed to argue that classification was more valid since it included a variety of criteria only some of which may have involved standardized testing.

Uses and Misuses of Testing

Part of the criticism of standardized testing in general and the use of test scores by colleges and universities in particular stems from a failure to differentiate between technical limitations of tests themselves and uses (or misuses) to which test results are subjected. With respect to the work of the psychometrician, Anastasi (1982, p. 46) observed that psychological testing had become disassociated from the mainstream of behavioral science. Thus the psychometrician needs to appreciate the complexity of specific behavioral domains (e.g. language development) as much as the technical issues of reliability and validity involved in test development. Consumer organizations have begun to exert political and economic pressure on test publishers to develop and enforce codes of technical standards and fair use. It is conceivable that institutional misusers may someday be subjected to a form of censure by the academic community; certainly this would be preferable to outside regulation by government mandated by the test disclosure laws of certain legislative bodies.

For years conflicting reports have been published concerning the predictive value of standardized testing for college success (Pedrini and Pedrini, 1973, p. 5). One problem, which is

compounded by untested and unconsidered demographic and ability factors, is the specific uses for the tests. Too often test scores, referenced to obscure norms and hence malleable, are appropriated for any number of uses: measuring levels of intelligence, tracking students in different classes, publicizing schools' exclusivity or quality. Such use often determines the distribution of educational funds (Pedrini and Pedrini, 1973, p. 225).

In a review of a specific reading placement test, Jongsma (1980, p.56) cautioned against three possible misapplications: using the test as the sole criterion for admission to a post-secondary program; diagnosing strengths and weaknesses in reading; and using the test as the sole criterion for evaluating progress in a college reading program.

Attempts to acknowledge limitations and to refine tests have resulted in a trend toward differential prediction. According to Fowler and Ross (1982, p. 1107), differential prediction studies have relied upon two methods for increasing precision. First, some studies have used grades for specific courses as predictor criteria rather than overall grade point average. Second, predictor variables have been selected which directly relate to tasks that are a part of the target courses. Fowler and Ross suggest a third method might be available in the development of separate prediction equations for different segments of the student population.

The more specific information gathered in assessments

the better. For instance, many researchers have concluded that objective tests should be supplemented with writing tests or other diagnostic tests. Alexander (1977, p. 291), for example, suggested that such tests be supplemented with sets of measurable behavioral objectives which have built-in evaluation, with teacher-made objective tests which correlate exactly with course objectives, and with "performance type tests which require successful completion of the types of reading tasks which college students are called upon to do in their coursework". Testing may be time consuming, but the need for diagnostic information has increased due to the influx of marginally prepared students. Because of the many factors which create diversified results, standardized tests should be analyzed to determine what skills they measure and to what degree they correspond with program objectives so that specific results can be obtained.

DeShields, Hsieh, & Frost (1984, p. 102) proposed, moreover, that differences between types of writing were often confounded with various purposes educators and others have for measuring writing skills. English teachers, administrators, and parents all have different expectations for such measurements; and their reasons differ. Test scores, for example, are used to place students in appropriate classes, to identify students' strengths or talents, to compare performance in one class or school with other classes or schools. De Shields et al. concluded that it was a mistake to suppose that a single measurement could be adequate for all these purposes.

The extent to which standardized tests have been misused is debatable. Schwartz (1977, p. 3678-68), for instance, stated that the underlying cause of criticism can be traced more to the misuse of tests or misapplication of their results than to flaws inherent in the instruments themselves. One of the most serious "faux pas", according to Schwartz, was the misapplication of norms to populations substantially different from those used in standardizing tests. Others were the use of tests as "gatekeepers" and labeling of individuals on the basis of a single administration of a test.

Ravitch (1983, p. 25-26), pointing out another limitation of standardized testing, stated that the emphasis on the "right answer: and on simplicity instead of thoughtful answers tended to lead to compartmentalization of knowledge instead of understanding of the qualified relations of ideas. She also granted that there are students who do not test well, who are apprehensive in test situations or who have abilities and gifts that the tests do not measure. But she also suggested that sensible admissions officers and educators should be aware of this and should be on the lookout for students who have the imagination, creativity and motivation that may not register on standardized tests.

Standardized tests have many uses. They permit a comparison of performance with some outside population. Test results may gauge general indications of growth and may give educators a rough estimate of the effectiveness of instruction.

The process of standardization provides a degree of objectivity and control (Schwartz, 1983, p. 367). Furthermore, Jongsma (1980, p. 56) stated that standardized tests could be used to place entering students into reading and/or English courses, to differentiate among students who are adequately prepared for college work and as one of several pieces of information for counseling students regarding course loads and course selection. Ravitch (1983, p.25), while concurring with many of these points, would add that such tests also serve as an early warning system to measure national trends in the learning of academic skills.

Reading, Writing and Standardized Testing

One of the most important abilities related to standardized testing and college success is reading, a basic skill essential in reading-intensive instruction and one presumed to affect writing skills. Standardized tests, whether specifically reading tests or those tests with reading subscores such as the EPT, have been used for diagnostic and placement purposes and for predicting grade point average for many years. However, research suggests that standardized tests inadequately predict overall grade point average because of the large number of variables related to academic success and because of many abilities relating to college success or failure that have not been able to be measured. Yet these standardized tests are considered to be adequate screening devices to determine students' abilities in relation to specific program objectives as long as it is recog-

nized that supplementary tests may be necessary.

Several studies which reported using achievement or aptitude tests to predict academic success have found that verbal factors, which typically involve some type of reading skills, were extremely important (Pedrini and Pedrini, 1973, p. 6). Articles reviewed for this study typically had extensive references to other articles that reported the important role of verbal/reading skills in standardized testing.

Pedrini and Pedrini (1973) discussed the positive correlation between reading ability and academic ability:

> In his study of comparisons of good and poor readers, Neville found that "predictions of failure among poor readers could be made with limited accuracy." And in a study using a group of dean's list students and a group on academic probation, no significant differences were found between the groups on reading rate and vocabulary. However, the former group was found to be significantly superior in verbal comprehension. Jellison studied two groups of dropouts, those with good academic potential and those with poor academic potential. When questioned about what influenced them to drop out, the latter group mentioned "not learning how to study in high school and poor reading ability significantly more often than the other group."
>
> In a seven year comprehensive study, Hardie and Undersign found that 35% of all dropouts were apparently capable of succeeding in college as indicated by CEEB scores. Astin noted that the major predictors of persistence in college were high school grades and scores on tests of academic ability, while White found that a significant factor in attrition was first semester grade point average. Effert and Clark's study revealed that 45% of college dropouts attributed their withdrawal to academic difficulties.
>
> (p. 15 - 16)

From the above it would appear that no single variable is an absolute indicator of success or failure. Although there

appears to be a positive correlation between reading ability and academic ability, it is not clear which of the two is contributing the most to academic success.

The emphasis on ability has created ambiguity about what "ability actually means, how it should be measured and how it interrelates with the factors involved in the success or failure of students. A contemporary paradox behind standardized tests, described by Ravitch (1980, p. 23), is egalitarianism. Because of this society's increasing insistence on social equality, an objective mechanism in the form of standardized testing was developed to assure that ability, not status, was used as the basis for selection. However, one of the forces that underlies criticism of standardized tests is egalitarianism. Ravitch argued that articulate critics charged that such tests favored the advantaged over the disadvantaged while claiming to be neutral and that the tests were inherently biased against those who were unfamiliar with the language of the majority culture. Clark (1980, p. 209) stated that many such tests were not objective at all but were actually implicit reflections of the subject's degree of socialization and his or her willingness to assume roles which support the power structure of the majority culture.

Ravitch (1980, p. 25), in defense, stated that standardized tests have validity only because the narrow spectrum of abilities they do measure tends to be crucial to the learning process in college. Noreen (1977, p. 142), however, suggested

that objective tests used for placement were often not tests of writing but of certain skills thought by the author to have a correlation with writing skills. He cited as an example the sharp disagreement as to whether skill in grammar and usage has any relationship to the creativity required in composing an essay. In addition, Noreen (1977) suggested that many critical skills are involved in producing an effective essay that need to be evaluated by reliable objective means.

Clark (1980, p. 225), concurring somewhat with Noreen, suggested that abilities measured by standardized tests are neither the full range of writing skills nor the quality of a finished product; such tests may be produced and the recognition of the extent to which those principles may be adjusted to suit different constraints. Noreen (1977, p. 143) suggested several objective standards for the holistic assessment of writing skills, a procedure similar to that proposed by the City University of New York (CUNY). The ability to write an expository essay and to identify correct grammar and usage is crucial in college, as Ravitch (1983) suggested, but the most opposite mechanism of measurement is still uncertain - where the emphasis should be placed during assessment is difficult to determine.

Students' ethnicity and financial status are the two most controversial factors involved in standardized testing. Clark (1980) objected that distortions were inherent in tests which proposed to measure idealized cognitive skills apart from culturally specific functions. He stated that such tests were

usually presented as relatively controlled, culture-free situations in which a student's skill could be evaluated apart from social considerations. However, one of the major test marketers, Educational Testing Service (ETS), when faced with a charge of bias, could only respond that tests can be used to identify the disproportionately few students from disadvantaged groups who can successfully compete with white middle class students on their own terms. In other words, tests are admittedly gatekeepers and are defended on those grounds. The range of information needed to understand what is being asked in such tests is usually inextricably bound to cultural norms, and those students who perform well reflect ability to comprehend tasks required of them by the majority culture (Ravitch, 1980, p. 23).

Ravitch (1980, p. 23) also defended standardized tests on the grounds that they continued to be the most objective mechanism available to allocate benefits because other measures such as personal recommendations and high school grades had been rendered useless due to widespread social promotion and grade inflation. To Clark (1980, p. 225), however, this had created a dilemma because theoretical issues of assessing writing had become compounded with their direct economic consequences for composition programs and the people who teach and learn in them. The issue becomes, then, who should control the educational decisions related to certification of students and instruction in basic skills, and Clark (1980) suggested that corporations, which serve administrative needs by designing tests that can be

processed quickly and reliably into marketable scores, had a major share in determining those decisions. The tests, according to Clark, were mass-produced commodities intended for White, middle class consumers. Ravitch's (1983, p. 23) point, however, remained clear; the tests were left as the fairest measure of a student's academic ability if one considered the alternative of basing selection on students' race, religion, class or family connections.

When one disregards theoretical issues of standardized testing in relation to minority or disadvantaged students and focuses on the correlation between test scores and college success or failure, one finds that results vary significantly. Pedrini and Pedrini (1973, p. 12), noting that much of the research dealing with minority students pertained to disadvantaged students as well, showed that, of the findings, the SAT verbal score was a more consistent positive predictor for White than for disadvantaged minority students; that Blacks showed significantly lower aptitude and achievement scores than Whites; and that there were no significant differences between the two groups in terms of motivation. Also, Blacks showed small but consistent tendencies to perform better than Whites on tests of inductive reasoning, spatial scanning and associative memory. Finally, the standardized tests did not accurately reveal the intellectual potential of culturally disadvantaged freshmen; and, conversely, while some researchers maintained that SAT scores of disadvantaged students were not clearly related to college grades, other

researchers concluded that aptitude scores and high school grades predicted academic success equally well for disadvantaged students and other students (Pedrini and Pedrini, 1973, p. 12).

In addition to these variables, other forms of writing assessment and measures need to be mentioned. According to Hoffman and Ziegler (1978, p. 159), Hunt attempted to discover an objective index for writing maturity; the index that best differentiated between educational levels was the "T unit", which was defined as one main clause plus the subordinate clauses attached to or embedded within it. Faigley, Daly, and Witte (1981) using the T- unit, which assesses words per clause and frequency of nonrestrictive modifiers as indices for assessing writing quality, found that different kinds of writing tasks, e.g. narrative/descriptive versus argumentative, resulted in texts having different internal characteristics. For example, number of words per T-unit was significantly lower for personal/descriptive narrative than for argumentative essays. Therefore, important differences exist between expository and creative writing. According to DeShields et al. (1984, p. 102), these differences have to do with both form and intent as well as writing skills required.

Reading and Academic Failure

The other side of this academic coin is prediction of failure. Pedrini and Pedrini (1973) stated that reading ability is probably related to poor grades. They and others listed and

discussed literature related to reading ability and poor grades, but they too found mixed, variable results. In addition, some studies seem to have discussed reading and study skills as if they were interchangeable, one and the same. This was not the case. Pedrini and Pedrini, (1973, p. 7-8) listed various studies that found strong correlations between reading ability and college failure as well as those that found mixed results, but none of the results was strongly conclusive. Numerous studies have been published which considered the predictive value of reading scores, and some of these studies found that reading scores predicted student success in college and some found just the opposite results. For instance, Breen (1954), using three reading scores and grades in twenty six subject areas, found that reading may have contributed to both persistence and to college success, which was defined by students' achievement of an all school average of 2.00. Conversely, in a study on the relationship between study skills and academic achievement for marginal admissions students, Pepper (1969) found the relationship between the skills measured and academic achievement to be unclear.

On reading the Pedrini (1973, p. 1) report, which contains 72 extensive footnote references, one is nearly overwhelmed by the varying or contradictory results published on the subject. According to Pedrini and Pedrini (1973, p. 1), ability may imply any number of traits, including "achievements, aptitudes, intelligences, temperaments, adjustments, maturities, interests, preferences, values, study habits, motivations and creativities."

The problem at the core of the contradictions may be that the relationship between the skills measured and academic achievement is unclear because isolating a narrow spectrum of abilities may not reliably indicate the full range of students' abilities or potentials. Stated somewhat simplistically, the problem is that an individual's abilities develop and change over time, and whether an individual succeeds or fails in college depends upon many external and subjective factors which are inevitably interrelated and which cannot be tested by any one device.

Demographic Factors in Placement Testing

Many questions about standardized testing remain unanswered, particularly about the effects of different kinds of testing upon the scores for ethnic minorities. Edward M. White (1981) compared the performance of freshman students entering the California State University system on the Test of Standard Written English (TSWE) and the English Placement Test (EPT). His comparison sample consisted of White, Black, Mexican American and Asian students. His results regarding the performance of minority students were of significant interest.

The TSWE, according to White, examines the correctness in the use of standard written English through questions about isolated items and relies on data that show a high correlation between writing ability and the ability to answer usage questions correctly.

Unlike the TSWE, the EPT tends to avoid isolated questions of usage except as they relate specifically to sentence structure or to logic and organization. The holistically scored essay portion consists of a single judgment rendered on the overall qualities of an essay, and the essay scoring criteria include other things in addition to correctness.

White stated that those who favor usage testing for placement argue that college writing demands standard written speech, sometimes referred to as the "grapholect" by White and linguistics experts, and that students without this standard form of English will be considered inadequate writers in college and perhaps in future years. They consider multiple-choice testing valid for placement purposes.

Opponents of usage testing argue that there is not a demonstrated high correlation of scores on usage tests to writing ability for minority students. In fact, White's research seems to indicate that students who do not perform well on usage tests may nonetheless write well (White, 1981, p. 280).

White's study of the sample of entering freshman students in the CSU revealed significant discrepancies in the scores of minority students on the TSWE and the EPT. He found that White students, who comprised 72 percent of the sample, were very close to the group norm and in fact a little above the norm on both the TSWE and the EPT. The TSWE in particular tended to show an unusually high number of high scores for White students. However, for minority students, the distribution was very dif-

ferent. Scores for Black students demonstrated the greatest discrepancies. The TSWE grouped a large proportion (eleven percent) of Black students at the lowest possible score. Though these students had a lower EPT total score than the majority, their scores were fairly evenly distributed. For Black students there was a considerable dissimilarity between TSWE and the EPT essay score.

For Mexican American and Asian students, the TSWE provided a more negative judgment of their use of English than the EPT produced. Second language interference may have been the most common element of difficulty for these students. White (1981, p. 280) surmised that the type of questions typically used in usage tests such as the TSWE particularly penalize non-significant features of minority dialect and second language features.

Gender is also a variable in predicting college success. Pedrini and Pedrini (1973) discovered variable results from existing research on this topic:

> Michael et al., found that correlations between the predictors of success of high school grades and CEEB scores with college success were higher for women than men; using different predictors, Irvine, Lindsey and Althouse found r's and multiple R's were higher for women. Correlations between SAT scores and college grades were studied over a three year period for freshmen who attended predominately non-Negro co-ed colleges. Analyses of variance indicated that the three main effects of sex, year, and college name made significant contributions to the variance, with sex contributing fifty percent. The correlation coefficients obtained were consistently higher among women. Flora found that the academic success of college women could

> be predicted from high school averages, but in order to predict the success of college women, verbal test scores were necessary. Using disadvantaged minority students, Cherdack found that SAT verbal correlations with GPA were generally higher for minority and White females than for males. (p. 9 - 10)

In addition, Hackman and Johnson (1981, p. 95) found that subsentence mechanics rating on the TSWE was the only significant difference for essays of women and men. They found no other statistically significant differences between the sexes for essay categories on the TSWE or for English course grades.

Other Factors in Writing Assessment

Faigley et al. (1981, p. 19) discovered that apprehension affected assessments of general verbal ability. It was discovered that the high apprehensive students put less information into each communicative unit, whether at the T-unit or the clausal level; that high apprehensives used a more restricted repertoire of syntactic constructions; and that final nonrestrictive modifiers appeared less in the prose of high apprehensives. The greatest difference between high and low apprehensives existed in personal narrative essays where these students were specifically asked to use personal experiences; no effects, however, were observed for the argumentative topics. Faigley et al. (1981) concluded that different materials and methods may need to be used for highly apprehensive writers and that, when assessments were made, educators may have been confounding performance with apprehension.

Another factor indirectly related to apprehension may be the frequency of student writing; according to Hackman and Johnson (1981, p. 95), students who wrote more frequently in secondary school tended to receive higher English grades in the first semester of their freshman year. Frequency of writing and apprehension, moreover, should be seen in conjunction with program variables. Pedrini and Pedrini (1973, p. 20) listed these variables which determine program effectiveness: methods used, mechanical devices, materials used and permanence of gains. Performance in classes where different types of writing were required directly affected overall GPA, and whether or not students came away from remedial courses with negative or positive attitudes about reading, study habits or writing depended to a large extent on diverse factors related to students' life situations and to program effectiveness.

Summary of the Literature Review

While the literature dealing with measurement of reading and writing skills among college students and the relation of these skills to subsequent academic success or failure is only partially understood, it seems clear that reading is a skill whose importance to the acquisition of a broad range of skills, including writing, is worthy of further investigation. This study will examine the above stated relationship in terms of a specific instrument (the CSU English Placement Test) for an entering class of CSU, Fresno freshmen.

CHAPTER 3

METHODOLOGY

This chapter will be devoted to a description of the subjects who were included in the study, a discussion of data collection and recording, and its limitations, and a listing of the statistical approaches used.

The Subjects

The entire group of 1,488 first time freshmen entering California State University, Fresno, for the Fall 1983 semester and who were still enrolled on the census date (end of the fourth week of instruction) were included in the study. Table 2 in the next chapter has one column that lists some of the demographic characteristics of these students that are relevant to this study. The reader will note that totals often are less than 1,488 due to missing data.

The entering class of 1983 consisted of 55.24 percent females, 34.81 percent non-White and (based on self reports provided by students sitting for the SAT and EPT) 10.28 percent ESL students. While the vast majority of these entering freshmen were from CSU, Fresno's five county service area, it is worth of note in passing that 4.84 percent of the students were graduates of foreign high schools.

Data Collection

Several sources were used to gather data for this study. Since CSU, Fresno is a SIMS (Student Information Management System) campus, an administrative computer terminal was used

to gather some of the data. However, some of the variables of interest for this study were not available in the computer, so records in the Office of Testing Services or in the student's permanent record file in the Records Office were consulted. As a result, two student assistants hired for this project spent hundreds of hours pulling files and recording data.

Unfortunately, several variables of initial interest were dropped from the study for one of several reasons. First, the English Equivalency Test results were not utilized because so few students passed this examination for credit. Also, the authors discovered that students who earned an exemption from the EPT on the basis of the EEE were also usually exempt on the basis of their SAT verbal score. Second, the initial proposal to collect information on the number and resulting units and grades from reading and writing intensive courses in a student's general education proved impractical due to widely varying curriculum by different professors teaching different sections of a given course.

Variables used in this study are reported in Table 1 below. Table 1 is reported in codebook form in case other researchers are interested in using the database for further analyses. The reader will note that several variables are provided that are not yet part of the student's academic history. Although information through the end of the Spring 1986 semester was gathered for the CSU, Fresno graduation writing requirement, only 48 students had cleared the requirement by passing the Upper

Division Writing Examination and another 36 by passing an authorized course. It is anticipated that in late summer of 1988 additional data will be gathered on these students for a second analysis that will focus on the relationship between various measures of writing competency prior to and during the student's tenure at CSU, Fresno.

Once the data were recorded, they were keypunched at the Center for Information Processing and entered on a disk file.

Statistical Analysis

Several methods of statistical analysis were utilized in this study. Version 9.0 of the Statistical Package for the Social Sciences (SPSS) was used for all analyses except for a preliminary look at the data. Biomedical program 04D was a useful way of editing the data for unwanted coding and keypunch errors. Descriptive statistics were computed using SPSS procedure FREQUENCIES for each of the variables in the data file. In order to examine several factors related to persistence, procedure CROSSTABS was used to compute chi square statistics and, where appropriate, associated eta squared values. In order to test the significance of the difference between means on several metric (interval level) variables, procedure T-TEST or BREAKDOWN was used. A correlation matrix was computed using procedure PEARSON CORR. Multiple regression analyses were performed using procedure REGRESSION. Finally, two discriminant analyses were performed using procedure DISCRIMINANT.

Table 1

Format of Data Gathered in the EPT Evaluation Study

Variable Number	Variable Name	Card Location
	Subject Number	1 - 4
1	SAT Verbal Score	5 - 6
2	Test of Standard Written English	7 - 8
3	ACT English Usage Score	9 - 10
4	EPT Reading Score	11 - 13
5	EPT Sentence Construction Score	14 - 16
6	EPT Logic and Organization Score	17 - 19
7	EPT Essay Score	20 - 21
8	EPT Composition Subtotal	22 - 24
9	EPT Total Score	25 - 27
10	Major	28
11	English as Second Language Code	30
12	Semester Passed English A	31 - 33
13	English A Attempts	34
14	Semester Passed English 1	35 - 37
15	Number of English 1 Attempts	38
16	Grade in English 1	39
17	High School Code	40 - 41
18	Activity Code - Spring 1986	42
19	Sex	43
20	Ethnic Code	44
21	Admission Status Code	45
22	Semesters of High School English	47
23	CSUF Units Completed - June 84	48 - 49
24	CSUF Grade Point Average - June 84	50 - 52
25	CSUF Units Completed - June 85	53 - 54
26	CSUF Grade Point Average - June 85	55 - 57
27	UDWE or W Course Completion Date	58 - 60
28	UDWE Objective Test Total	61 - 63
29	UDWE Essay Total	64 - 65
30	UDWE Formula Score	66 - 68
31	W Course Grade	69
32	Baccalaureate Award Date	70 - 72
33	Final CSUF Grade Point Average	73 - 75

Discriminant analysis is one member of a family of multivariate techniques that is concerned with the desire to statistically distinguish between two or more groups of cases (Nie, Hull, Jenkins, Steinbrenner, and Bent, 1975). Kerlinger and Pedhazur (1973) stated that all methods of analysis seek to identify and quantify variance shared by variables. While multiple regression is concerned with the magnitude and statistical significance of the variance shared between a dependent variable Y that is measured on an interval scale and several independent variables that may be measured on a nominal or interval scale, discriminant analysis is a multiple regression technique by which the dependent variable is nominally scaled. The discriminant function is a regression equation with a dependent variable that represents group membership (Kerlinger and Pedhazur, 1973).

The discriminant function maximally discriminates between members of a large group by assigning individuals to groups on the basis of two or more measures. The function gives the "best" prediction, in the least squares sense, of the correct group membership for each subject of the study (Kerlinger, 1973). This assignment of subjects to groups represents the classification phase of a study. Discriminant analysis is a powerful research tool that has two research objectives: analysis and classification.

According to Nie et al. (1975), the analysis aspect of discriminant analysis provides several tools for the interpretation of data. Some of the most powerful of these tools are

statistical techniques for measuring the success with which the discriminating variables actually discriminate. The relative percentage of each eigenvalue associated with each discriminant function, the canonical correlation between each discriminant function and a set of dummy variables which define group membership and Wilk's Lambda are all available in the SPSS discriminate analysis subroutine used in the present study.

Interpretation of the standardized discriminant function coefficients available for each discriminating function aids in theoretical determination of the nature of each discriminating function. The absolute value of these coefficients indicates the relative importance of that coefficient in the discriminating function. The plus or minus sign associated with each function simply indicates whether the contribution of that variable will be positive or negative.

Discriminant analysis was used in this study to determine how well a linear combination of EPT subscores differentiated between those students successfully completing or not completing English A on their first attempt. Similarly, a second discriminant analysis was used to determine how well the EPT subscores differentiated between students successfully completing and not completing English 1 with a grade of C or higher on their first attempt. For this second analysis, several sets of predictor variables were used consisting of various combinations of EPT subscores, the SAT verbal score and the TSWE.

CHAPTER 4

PRINCIPAL FINDINGS

This chapter will present descriptive statistics for the principal variables in the study, a correlation matrix for the interval level measures, summarize various crosstabulations that were run to examine persistence patterns as a function of EPT subscores and selected demographic factors, and the results of the multivariate analyses.

Table 2 contains selected demographic characteristics of the 1,488 students in the study. The group was divided to show the number of students eligible to take English 1 and those required to first sit for English A; this determination was made on the basis of either SAT or EPT scores. For a group of students who took both the SAT and the EPT, nine students were eligible for English 1 on the basis of both measures, one student was eligible on the basis of the SAT and ineligible on the basis of the EPT, 372 students were eligible on the basis of the EPT but not the SAT and 523 were ineligible on the basis of both measures. The implications from this data are twofold. First, the EPT does indeed function as a "second chance" for students to enroll in English 1. Secondly, the present cutting score of 510 on the verbal section of the SAT does in fact seem to produce placement decisions highly congruent with results from the EPT.

Table 2 sheds light on the first research question posed. On the basis of chi square values computed as a part of the crosstabulation run used to construct Table 2, it appears

Table 2

Selected Demographic Characteristics

of 1,488 Fall 1983 First Time Freshmen at

California State University, Fresno

Variable[a]	All Students	Students Eligible For English 1	Students Not Eligible For English 1
Sex			
Males	666 (44.7%)	274 (41.5%)	378 (48.2%)
Females	822 (55.2%)	386 (58.5%)	406 (51.8%)
Ethnic Group			
Asian	118 (8.2%)	28 (4.3%)	86 (11.4%)
Black	75 (5.2%)	7 (1.1%)	66 (8.7%)
Chicano	215 (15.0%)	45 (7.0%)	164 (21.7%)
Caucasian	920 (64.0%)	526 (81.7%)	369 (48.9%)
Other	110 (7.6%)	38 (5.9%)	70 (9.3%)
Major Declaration[b]			
Declared	1,073 (73.6%)	466 (72.1%)	575 (75.0%)
Undeclared	384 (26.4%)	180 (27.9%)	192 (25.0%)
English As Second Language			
Yes	153 (10.3%)	19 (2.9%)	130 (16.6%)
No	1,224 (89.7%)	641 (97.1%)	654 (83.4%)
Students Persisting			
Less Than 1 Year	55 (3.7%)	19 (2.9%)	29 (3.7%)
At Least 1 Year	202 (13.6%)	80 (12.1%)	107 (13.6%)
At Least 2 Years	269 (18.1%)	110 (16.7%)	155 (19.8%)
At Least 3 Years	962 (64.7%)	451 (68.3%)	493 (62.9%)

[a] Totals Less than 1,488 Due to Missing Data
[b] At Time of Entrance

that there are indeed significant (at the .01 level) differences between the number of students eligible for English 1 and those not so eligible on the basis of sex, ethnic group and self-reported ESL status. The proclivity to declare or not declare a major at the time of entrance to the university does not appear to be related to eligibility for English 1. Non-ESL students, females, and Whites are significantly overrepresented among those students eligible for English 1.

Table 3 was constructed to address the second research question. On the basis of the F test computed in Table 3, it would appear that indeed there are statistically significant (at the .001 level) differences between students eligible for English 1 and those not so eligible on SAT verbal scores, the Test of Standard Written English, all EPT subscores, cumulative units completed by June 1984 and grade point average in June 1984. The number of semesters of high school English does not appear to be related to eligibility for English 1 at CSU, Fresno. As mentioned in the introduction, overemphasis on the statistical significance of results computed with large groups must be tempered with a look at the practical significance of these results.

Table 3 reports the statistic eta squared for each of the measures described above. In the present context, eta squared may be interpreted as the proportion of the variance in the various test scores and measures of academic progress explained by group membership. Some 43.09 percent of the variability in SAT verbal scores, for example, can be explained

Table 3

Differences Between Students Eligible and Not Eligible to Enroll in English 1 on Selected Preadmissions and Postadmissions Indices

Independent Variable	Eligible N	Eligible Mean	Eligible Std. Dev.	Not Eligible N	Not Eligible Mean	Not Eligible Std. Dev	F	ETA²
SAT Verbal Score	611	481	74.8	645	354	71.0	949.3	.431
Test of Standard Written English	596	47.9	6.7	611	36.2	9.1	622.2	.342
EPT Scores:								
Reading	431	154	4.1	662	140	10.3	732.1	.401
Sentence Construction	425	156	4.9	649	141	10.2	827.7	.435
Logic & Organization	425	152	4.6	649	138	10.3	794.0	.426
Essay	431	8.0	1.1	661	6.4	1.4	402.8	.270
Composition Subtotal	431	154	2.9	662	141	7.6	1115.4	.506
Total Score	431	154	2.5	662	141	7.9	1125.7	.508
Semesters of High School English	427	7.8	.4	487	7.8	.6	2.8	.003
Units Completed by June 84	639	26.8	7.3	750	24.4	7.7	33.3	.024
Grade Point Average June 84	637	2.7	.7	749	2.4	.7	80.2	.055

by group membership. Some 43.09 percent of the variability in SAT verbal scores, for example can be explained by group membership. Results in Table 3 are not too surprising, for these various test scores were used to establish group membership in the first place.

Table 4 indicates the simple product moment correlations between SAT verbal score, the Test of Standard Written English, all EPT subscores, grade in English 1, semesters of high school English, units completed at the end of the freshman year, and grade point average at the end of the freshman year. As might be expected, correlations between the three objective subtests of the EPT were high, ranging from .770 for the correlation between sentence structure and logic and organization to .818 for the correlation between reading and logic and organization. That the EPT essay score is measuring something different from the objective tests is implied by the lower correlations of that measure with the three objective tests; these correlations are in the .50 to .60 range. It should be noted that all correlations between grade received in English 1 and various test results are low, and the correlations between the test results and freshman year grade point average are even lower. However, the fundamental importance of English 1 in the student's overall curriculum is shown by the moderately high correlation of .442 between English 1 grade and overall freshman year grade point average. This implies that the skills required for doing well in English 1 are fundamental to a student's overall success in school.

Table 4

Correlation Matrix for Ten Variables Associated with First Time Freshmen Entering CSU, Fresno in Fall 1983

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10
V1	1.000									
V2	.744	1.000								
V3	.731	.635	1.000							
V4	.688	.750	.783	1.000						
V5	.728	.645	.818	.770	1.000					
V6	.453	.495	.550	.580	.506	1.000				
V7	.291	.348	.244	.282	.277	.243	1.000			
V8	.063	.085	.023	.031	.007	.012	-.010	1.000		
V9	.209	.226	.882	.124	.076	.106	.158	.204	1.000	
V10	.273	.316	.215	.239	.211	.210	.442	.116	.566	1.000

V1 = SAT Verbal Score
V2 = Test of Standard Written English
V3 = EPT Reading
V4 = EPT Sentence Construction
V5 = EPT Logic and Organization
V6 = EPT Essay
V7 = Grade in English 1
V8 = Semesters of High School English
V9 = Units Completed - June 84
V10 = Grade Point Average - June 84

Table 5 is a summary of five crosstabulations generated to provide an answer to research question number 4. Since the focus of this study was upon differences between students scoring below the first quartile on the reading subscore of the EPT and those scoring above that point, chi square values were calculated based upon that partition and a measure of persistence defined by four categories. A persistence code of 1 in Table 5 indicates that a student in either group failed to complete his or her freshman year. A code of 2 means that the student did finish the first year but left during the second year. A code of 3 indicates completion of the second year but departure during the third year. Finally, a code of 4 represents completion of the third year. Also, all of the other EPT scores were recoded on the basis of whether or not they were below or at and above the first quartile. The first quartile was selected in view of the fact that students scoring below this point are eligible for specially funded instruction (Intensive Learning Experience).

Surprisingly, reading was the only EPT subscore that did not appear to be related to persistence as defined above. Various explanations are possible, but in the absence of empirical evidence upon which to base a conclusion the authors will not engage in speculation. The most highly significant chi square result was for the essay test ($p < .001$); this implies that the ability to write an acceptable essay is strongly related to persistence in school. Note, however, that it would be incorrect to generalize from this finding that inability to write causes a

Table 5

Persistence Patterns Compared for Entering Freshmen Scoring Below the First Quartile on EPT Scores with Those Scoring Above that Point

	Group									
	<-- Scores Below 1st Quartile -->				<-- Scores Above 1st Quartile -->				Chi	ETA
EPT Scores	P1	P2	P3	P4	P1	P2	P3	P4	Square	Squared
Reading	4	35	63	174	23	93	153	548	4.1170	.0002
Sentence Construction	6	38	72	163	20	89	140	546	11.4600 *	.0040
Logic and Organization	3	28	70	162	23	99	142	547	12.1410 *	.0001
Essay	1	14	50	96	26	114	166	625	17.4020 **	.0000
Composition Subtotal	5	32	75	169	22	96	141	553	11.9548 *	.0010
Total Score	6	34	73	167	21	94	143	555	10.1502	.0021

*p < .01

**p < .001

P1 = Persisted Less Than 1 Year

P2 = Completed First Year; Left During Year 2

P3 = Completed Second year; Left During Year 3

P4 = Completed Third Year

student to leave school; certainly other factors have to be considered such as motivation and financial status. Among students not initially eligible for English 1, 59.6 percent did complete their third year; 68.3 percent of students initially eligible, however, persisted to the end of the third year. Inspection of the final column of Table 5 shows very disappointing eta squared values. Only two percent of the variance in persistence as defined above can be explained by the EPT total score. It should be noted that eta squared may not be an appropriate statistic here; Nie, Hull, Jenkins, Steinbrenner, and Bent (1975, p. 230) indicated that eta squared is appropriate when the independent variable in a crosstabulation (group membership) is nominally scaled and the dependent variable (persistence) is at the interval or ratio level of measurement. Persistence as defined above is really an ordinally scaled variable, and although researchers in the social sciences often assume that statistics appropriate for interval level data can be applied to ordinally scaled data the disappointing results may stem in this case from the relatively small number of recoded values used for persistence.

Research question five is addressed in Tables 6, 7, 8 and 9. The methodological digression immediately above is directly relevant to these tables, since the nominal scale of measurement for both variables in the crosstabulation clearly renders eta squared an inappropriate statistic. The relation between students scoring below the first quartile on the EPT reading subtest versus those scoring at or above that point was

Table 6

A Comparison Between the Number of Students Scoring Above and Below the First Quartile on the EPT Reading Subtest by Whether or Not the Student Declared a Major When Entering CSUF

	First Quartile	Above First Quartile
Declared Major	211	566
Undeclared	58	232
Chi Square = 5.36		p < .05

Table 7

A Comparison Between the Number of Students Scoring Above and Below the First Quartile On the EPT Reading Subtest by Sex

	First Quartile	Above First Quartile
Male	137	342
Female	139	475
Chi Square = 4.76		p < .05

Table 8

A Comparison Between the Number of Students Above and Below the First Quartile on the EPT Reading Subtest by ESL Status

	First Quartile	Above First Quartile
ESL Student	95	50
Not an ESL Student	181	767
Chi Square = 141.15		p < .001

Table 9

A Comparison Between the Number of Students Above and Below the First Quartile on the EPT Reading Subtest by Ethnicity

	First Quartile	Above First Quartile
Black	37	31
Chicano	78	109
Asian	53	50
White	60	552
Other	26	63
Chi Square = 178.23		p < .0001

in terms of whether or not the student declared a major at entrance, the student's sex, whether or not English was the student's first language, and ethnicity. Table 6 indicates that declaration of a major was not significantly related to reading group membership. A significance level of .01 was chosen for these tests. Similarly, Table 7 indicates that a student's sex was not related to whether or not his or her reading subscore was below or above the first quartile. Table 8, however, shows that there was a highly significant relationship between a student's first language and his or her reading subscore. As might be expected, more ESL students scored below the first quartile than at or above this point; the opposite is true for students whose native language was English. Finally, Table 9 indicates a highly significant relationship between a student's ethnicity and his or her reading subtest group membership. Close inspection of Table 9 reveals that the majority of Blacks and Asians, in fact, scored below the first quartile on the reading subtest. On the other hand, approximately nine times as many Whites scored at or above the first quartile as below that point.

Table 10 is a summary of 24 analyses of variance which was designed to address research question six. An alpha level of .001 was chosen for statistical significance for this table because there were so many F tests that alpha levels of .05 or .01 could have led to statistically significant results on the basis of chance alone. Since eta squared is an appropriate statistic to consider in this table, the following discussion will focus on

Table 10

Summary of 24 Analyses of Variance in Which Six EPT Score Means Were Compared Across Sex, Ethnicity, ESL Status and Presence or Absence of a Declared Major for Entering Freshmen at CSU, Fresno in Fall, 1983

EPT Scores	Sex		Ethnicity		ESL Status		Major Status	
	F	ETA^2	F	ETA^2	F	ETA^2	F	ETA^2
Reading	7.3	.0066	44.2*	.2050	221.6	.1888	3.87	.0036
Sentence Structure	19.4*	.0178	43.2*	.2038	195.1*	.1540	0.78	.0007
Logic and Organization	11.8*	.0109	49.4*	.2264	198.8	.1564	1.18	.0011
Essay	66.8*	.0577	25.9*	.1314	89.1*	.0756	0.36	.0003
Composition Subtotal	32.7*	.0291	56.0	.2462	226.5*	.1719	0.95	.0009
Total Score	24.8*	.0222	57.4*	.2507	244.5*	.1831	1.65	.0015

*p < .001

that measure. Basically, research question 6 was concerned with whether or not the mean EPT scores showed differences on the basis of the student's sex, ethnicity, ESL status, and presence or absence of a declared major at the time of entrance to the university. With respect to sex, it appears that about 5.77 percent of the variance in essay scores can be explained by the student's sex; females on the average score 7.4 on the essay test and males 6.6. Less than 5 percent of the variance on the other EPT scores appears to be explained by sex. Ethnicity is an interesting variable to study with respect to EPT score differences because it appears that nearly twice as much variability in objective subtest scores can be explained by ethnic differences than on the essay subtest. While eta squared ranged from .20 to .23 on the three objective subtests, only 13 percent of the variance in essay scores was related to this factor. This raises the interesting question as to whether or not the EPT unfairly punishes minority ethnic groups by weighing the objective subtests too heavily. This same pattern was evident when examining ESL status; more than twice as much variance in the objective subtests appears related to this factor than in the essay subtest. The proclivity of a freshman to enter CSU, Fresno with or without a declared major appears not to be a significant factor in examining differences in EPT scores.

Research question number seven is considered in Table 11. For 588 students for whom we had both EPT subscores and English 1 grades, only 11.2 percent of the variability in English

Table 11
Summary of Multiple Regression Analysis
for 588 First Time Freshmen Entering CSUF
in Fall 1983 Showing Efficacy of EPT
Subscores in Predicting Grade in English 1

EPT Subscore	Multiple R	R Square	Simple R
Logic and Organization	.278	.077	.278
Essay Score	.324	.105	.247
Sentence Construction	.333	.111	.276
Reading	.335	.112	.221

1 grades, only 11.2 percent of the variability in English 1 grades could be accounted for by a linear combination of EPT subscores. Moreover, the addition of two additional independent variables (SAT verbal score and TSWE score improved this only to 13.2 percent; the latter regression is not shown. Once again, it is important to realize that the EPT was not designed to predict student performance.

The final research question is covered in Tables 12 to 17. The basic question centered around how well EPT scores discriminated between students successfully completing and those not successfully completing English A and English 1. A success in English A was defined as completion of the course on the first attempt, and a failure was defined as completion upon two or more attempts. One must keep in mind that English A is graded on a credit no credit (cr/nc) basis. Similarly, a success in English 1 is defined as attainment of a grade of A, B or C while a failure is a D or F grade.

Table 12 contains the overall discriminant function analysis results for the four independent variables (EPT subscales) relating to performance in English A for 349 freshmen taking English A sometime during their first five semesters of enrollment at CSU, Fresno. Since there were only two possible group memberships, there was only one discriminant function. The canonical correlation was simply a measure of association between the single discriminant function and group membership. The canonical correlation squared was the proportion of variance in

Table 12

Discriminant Function Analysis Results in Which EPT Subscores were used to Predict Completion or Noncompletion of English A in One Attempt by 349 Freshmen

Discriminant Function	Eigen-Value	Canonical Correlation	Wilks Lambda	Chi Square	Significance
1	.126	.335	.888	41.07	.0000

Table 13

Standardized Discriminant Function Coefficients and Univariate F For Each of Four Variables Used in the Analysis of Table 12

EPT Subscore	Function Coefficient	Group Means 1[a]	Group Means 2[b]	F
Reading	.274	140.8	131.5	31.5*
Sentence Construction	.163	140.9	132.2	27.2*
Logic and Organization	.413	137.9	128.4	31.0*
Essay	.421	6.0	5.2	21.1*

*$p < .001$

[a] Students Completing English A on One Attempt

[b] Students Not Completing English A on One Attempt

the discriminant function explained by the groups (Nie et al., 1975). Table 12 shows that 11.2 percent of the variance in the discriminant function was explained by group membership. Table 12 also shows that the discriminant function was statistically significant at an alpha level of .001.

Table 13 shows the standardized discriminant function coefficients for the discriminant function and univariate means and F values for each of the four variables used in the analysis. Standardized discriminant function coefficients are similar to regression weights in that both show relative importance of the contribution of each variable to the dependent variable. Note that the essay subtest was the most important variable in this analysis and sentence construction the least important. The four univariate F tests simply indicate that the differences between EPT subscore means for the two groups of English A students were statistically significant at an alpha level of .001.

Table 14 shows the classification of 360 CSU, Fresno freshmen based upon discriminant function scores assigned to each individual by the coefficients derived in this analysis. Ideally, such a classification table should be based upon a different set of observations from that used to build the table. However, such a cross validation would have had to be done with a different class of freshmen or alternatively by a different computer program that would split the subjects into two groups on a random basis. The reader should keep in mind that a given individual has a prior probability of 0.50 of being assigned to his

Table 14

Classification of 360 First Time Freshmen Entering CSU, Fresno in Fall 1983 Into Two Groups Based Upon Successful and Unsuccessful Completion of English A Using One Discriminant Function

Actual Group Status	N	Predicted Group Status: Completed On First Attempt N	%	Completed-More than One Attempt N	%
Completed on First Attempt	318	242	76.1	76	23.9
Completed-More than One Attempt	42	12	28.6	30	71.4
Total Successful Classification 75.56%					

Table 15

Discriminant Function Analysis Results
In Which SAT Verbal, TSWE and EPT Subscores
Were Used to Predict Successful Completion
or Noncompletion of English 1 by 594 Freshmen

Discriminant Function	Eigen-Value	Canonical Correlation	Wilks Lambda	Chi Square	Significance
1	.063	.243	.941	35.81	.0000

Table 16

Standardized Discriminant Function Coefficients
and Univariate F For Each of Four Variables
Used in the Analysis of Table 15

EPT Subscore	Function Coefficient	Group Means 1[a]	Group Means 2[b]	F
SAT Verbal	-.00752	347.7	395.5	18.2*
TSWE	.20952	34.9	41.5	22.2*
EPT Reading	-.18971	144.1	149.4	15.4*
EPT Sentence Construction	.39454	143.5	151.0	27.2*
EPT Logic and Organization	.43115	139.7	146.8	23.2*
Essay	.40969	6.5	7.5	18.2*

*p < .001

[a] Students Completing English 1 with a D or F

[b] Students Completing English 1 with an A, B or C

or her correct group on the basis of chance alone; Table 14 shows that the total successful classification was 75.56 percent for this discriminant analysis.

Tables 15, 16 and 17 are analogous to Tables 12, 13 and 14 respectively; the analysis this time was for English 1 students successfully and not successfully completing their course. Table 15 indicates that only 5.9 percent of the variance in the discriminant function was explained by group membership.

Table 16 reveals that for students enrolled in English 1 the EPT Logic and Organization score contributed the most to the discriminant function used to classify group membership. Table 16 also shows that EPT subscores were significantly different for students successfully completing and not completing English 1 (the univariate F tests in the final column of Table 16). Finally, Table 17 demonstrated that the probability of correct classification of a student into his or her English 1 outcome group was improved from a chance level of 0.50 to 0.77.

Table 17

Classification of 897 First Time Freshmen Entering CSU, Fresno in Fall 1983 Into Two Groups Based Upon Successful and Unsuccessful Completion of English 1 Using One Discriminant Function

Actual Group Status	N	Predicted Group Status: Completed With D or F Grade N	%	Completed With Grade of A, B or C N	%
Completed With D or F Grade	49	28	57.1	21	42.9
Completed With Grade of A, B or C	848	182	21.5	666	78.5
Total Successful Classification 77.37%					

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary of the Study

The fundamental purpose of this study was to investigate differences between students eligible to enroll in freshman composition and those who appeared, on the basis of English Placement Test (EPT) scores or other evidence, to require remedial work in the areas of reading and writing.

Special attention was given to reading subtest scores and student progress since it was hypothesized that students scoring below the first quartile on this measure would have difficulty in persisting at the university. For students both eligible and ineligible for regular freshman composition, EPT scores were examined using the technique of discriminant analysis to determine whether or not the scores had utility in predicting which students would have difficulty in successfully completing the course. Analysis of variance was used to determine whether or not significant differences existed between students scoring below the first quartile on the EPT subscores and the total score and those scoring at or above that point on the demographic variables of sex, ethnicity, ESL status, and presence or absence of a declared major at the time of entrance to the university.

Subjects for this study were all 1,488 freshmen enrolling for the first time at CSU, Fresno in Fall 1983. Variables in the study included sex, ethnicity, admissions status code, semesters of high school English completed, SAT verbal score, the

Test of Standard Written English score, all EPT scores (6), major declaration status, English as a Second Language code, academic history in two specific English courses, and grade point average at the end of the freshman year.

Conclusions

The study produced the following conclusions:

1. The EPT reading subscore did not appear to be more predictive of a student's persistence and academic progress than other objective components of the EPT. On the other hand, the finding that the EPT essay subscore was more highly related to persistence strongly supports the accuracy and consistency of essay testing as well as White's position regarding culture free testing.

2. Significantly less variability existed in the EPT essay subscore than in the three objective test subscores on the basis of ethnicity and English as a Second Language status (see Table 10 and related discussion in Chapter 4).

3. EPT scores might be useful not only in making an initial assignment of students to either freshman composition or remedial writing but also in flagging students in both courses who are likely to need additional help in order to successfully complete the course.

4. Significant differences existed between the number of students eligible for regular freshman composition and those not so eligible on the basis of sex, ethnicity and self-reported ESL status. Non-ESL students, females and Whites are sig-

nificantly overrepresented among students eligible for regular freshman composition.

5. Significantly high correlations existed between the three objective subtests of the EPT. Also, the relatively lower correlation between the EPT essay score and the three objective subtests indicated that the EPT essay subscore contributed information to the total score that otherwise would not be available.

Recommendations

On the basis of the findings and conclusions of this study, the following recommendations are offered:

1. Since there seems to be some indication that objective subtest results are related to ethnicity and ESL status, selected students should be counseled not to sit for the EPT until they have received some orientation to objective test formats. More importantly, educators should exercise caution in using objective subtest results of the EPT as indicators of student writing skills.

2. It was demonstrated that EPT subscores have utility in identifying students likely to have difficulty in successfully completing English A and English 1. These at-risk students should be offered an enriched program in order to increase the probability of their successfully completing the course. Currently, most CSU campuses have an Intensive Learning Experience program intended to develop the writing and mathematical skills of underprepared students. While underpreparation in writing is

currently defined as possessing a lower quartile total score on the EPT, application of the discriminant function analysis could help faculty develop locally-based criteria that can perhaps more effectively identify students who will benefit from this program.

3. Curriculum revision in beginning English courses should take cognizance of the fact that ethnic minority and ESL students test relatively better with an essay format than an objective test format.

4. The finding that there was significantly less variability in the EPT essay subtest subscore than in the three objective test subscores on the basis of ethnicity and ESL status should serve to remind developers of new versions of the EPT that they must pay stricter attention to item content in order to avoid test bias.

5. Students, and especially ethnic minority and ESL students, should be given a second opportunity to sit for the EPT on those campuses which rely upon the total score since it was demonstrated that the essay component of the exam is relatively culture free in comparison with the objective subtests.

6. It is recommended that the portion of the study dealing with ethnic and ESL differences in EPT subscores be replicated on a campus with a more homogeneous student body to determine if the greater variability in the objective test scores is culture bound or is a universal aspect of the EPT.

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